Iowa Department of Natural Resources
Flood Plain Management Program

FPID# _____

Applying for a Flood Plain Permit
Stream Bank Protective Devices- Basic Method

To obtain a DNR Flood Plain Permit for your project, you must submit to this Department the following checklist and the supporting documentation itemized on this checklist. **Applications submitted without this information will be considered incomplete and will not be reviewed.**

- ☐ Completed DNR Form 542-1018 – "Determining If a Flood Plain Permit is Required – Stream Bank Protective Devices".
- ☐ Completed and signed DNR Form 36, *Joint Application Form – Protecting Iowa Waters*.
- ☐ Completed document- "Gaining Approval for Stream Bank Protective Devices- Basic Method" – attached

Reviewer's Notes:

Gaining Approval for
Stream Bank Protective Devices- Basic Method

Date: _____
Completed By: _____

1. Application: Completed and signed Joint Application Form Submitted (required)? ☐ Yes ☐ No

Please indicate if the project site is within the incorporated limits of a city by using the word 'in' when listing the city in Item 7 of the application. The application can be found online at the following link. http://floodplain.iowadnr.gov/

A copy of the application and supporting documentation must be sent to:

- Iowa DNR, Flood Plain Permit Program
- Iowa DNR, Sovereign Lands (Submit with the copy for the Flood Plain Management Program)
- U.S. Army Corps of Engineers (Submit to the address listed in the instructions)

Applicant Name:					
Location (in Quarter-Section-Tier-Range format):	Qtr.	Sec.	T N	R	
County:		Stream(s):			

2. Plans: Two sets of plans submitted? ☐ Yes ☐ No

Information pertaining to stream bank protective devices, including riprap or revetment measures, can be found at the following link by clicking on "How to Control Stream Bank Erosion". http://www.iowadnr.com/water/stormwater/forms.html#manuals.

☐ Location map (topographic maps available at: *http://ortho.gis.iastate.edu/*)

☐ A to-scale or dimensioned site map showing the project area, property lines and ownership, roads, buildings, existing levees or spoil banks and any other pertinent physical features. The plan should show the length of the stream reach to be protected. Crop (compliance) photos available at the county Farm Service Agency are usually satisfactory for use as a base for the site map. In addition, topographic maps and aerial photos can be utilized for site maps.

☐ A to-scale or dimensioned cross sectional view of the project showing the bank height, bank slope - both existing and proposed, stream width (measured from top of bank to top of bank) and a depiction or description of the protection measures including all appropriate dimensions. Include any site preparation work planned for the bank such as sloping, terracing (benching) or filling.
Note: Please refer to the "Typical Stream Bank Armoring Cross Section" included in DNR Form 542-1018 for guidance in preparing this drawing.

☐ Type and size of material to be used including any filter fabrics or bedding material (if needed). Please note that generally accepted armoring (revetment) material includes field stone, quarry rock and broken concrete. When using broken concrete, all exposed reinforcing steel must be removed or cut flush with the surface of the concrete prior to placement. Any concrete slabs larger than three feet across must be broken into smaller pieces prior to placement. The use of asphalt or other solid waste is prohibited. The thickness of a revetment blanket must not exceed 3 feet. However, at the discretion of the DNR, the revetment blanket thickness may be further restricted depending on the size of the stream channel.

☐ Indicate the spoil disposal site. Please note that disposal of the spoil material directly on top of the stream bank in the form of a levee or dike is prohibited. Any spoil material resulting from stream bank shaping should be disposed of outside the flood plain in a non-wetland location. The spoil must not be placed in a floodway as designated in a flood insurance study or in an area that is or could be considered a regulated wetland.

Additional Requirements for Bank Stabilization Structures

- The armoring (revetment) material should consist of a mixture of sizes so as to form a dense, interlocking blanket.
- Armoring (revetment) material shall be placed on the existing or a prepared stream bank with a finished slope of no steeper than 1.5 feet horizontal to 1 foot vertical (1.5H:1V).
- The armoring (revetment) material shall be placed so that the resulting channel cross-section is not more restrictive than the adjacent natural upstream and downstream channel cross section. The placement of armoring material into isolated scour hole areas may exceed the maximum thickness limitation as long as the material does not obstruct the channel.
- The armoring (revetment) material shall not extend vertically above the adjacent top of bank.

3. Criteria for Approval:

As outlined in Iowa Administrative Code 567-72.9; stream protective devices must be designed to meet the following criteria. The criteria listed below will generally be satisfied by complying with the requirements listed or noted above.

72.9(1) Overflow. Stream protective devices shall be constructed in a manner which will not cause premature overbank flow.

72.9(2) Velocity. Increase velocities resulting from the construction, operation, and maintenance of stream protective devices shall be limited so as not to cause excessive scour in the channel as determined by the department.

72.9(3) Stability. Stream protective devices shall be anchored securely to the bank or constructed in a stable manner so as not to become dislodged and result in the scattering of debris in adjacent and downstream reaches.

72.9(4) Water quality and aesthetics. Stream protective devices shall not adversely affect the water quality, fish and wildlife habitat or aesthetics of the stream.

Does the Project Satisfy All Criteria? ☐ Yes ☐ No

If no, provide explanation: _____